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Kazuo Yokoyama

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EXAMINER

CHIN, PAUL T

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,756	Applicant(s) YOKOYAMA ET AL.	
	Examiner PAUL T. CHIN	Art Unit 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-25, 27-30 and 32-37 is/are pending in the application.
- 4a) Of the above claim(s) 21, 23, 25, 27-30 and 32-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-20, 22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of the species of Figs. 1A-2D, readable on claims 18-20,22, and 24, in the reply filed on April 30, 2007, is acknowledged.
2. Claims 21, 23, 25, 27-30, 32-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on April 30, 2007. Note that applicant provided new claims 35-37 which depend on the withdrawn claims 27-29, and 32 are also withdrawn.
3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
5. It is noted that this application appears to claim subject matter disclosed in prior Application No. 2002-182504, filed June 24, 2002, in Japan. A reference to the prior application must be inserted as the first sentence(s) of the specification of this application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on the filing date of the prior application under 35 U.S.C. 119(e), 120, 121, or 365(c). See 37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, 121, or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all nonprovisional applications. If the

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application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior application must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath

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or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the

petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required.

Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 18-20, 22, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese patent (JP 02-100791) (see IDS).

The Japanese patent (JP 02-100791) discloses a multi-joint drive mechanism comprising a flat-plate shaped bone-member layer member (see Figs. 3 and 5) in which a plurality of bone members (11 and 12) are arranged in arrays, the plurality of bone members being movably coupled at flat-plate shaped coupling portions (25), and elastic members (16) which are arranged so as to stretch over the coupling portions on a contact-surface side of the bone-member layer member that makes contact with an object or on its non-contact-surface side opposed to the contact-surface side and moreover which are fixed between the plurality of bone members, wherein the multi-joint drive mechanism drives flexural motions (see Figs. 2-5) with the coupling portions between the plurality of adjoining bone members serving as joints by expanding or contracting the elastic members, and the multi-joint drive mechanism has a layer

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structure (1) in which at least the flat-plate shaped bone-member layer member and the elastic members are arranged in a planar fashion.

Re claim 19, the Japanese patent (JP 02-100791) teaches in figure 3 the degree of freedom of the coupling portion.

Re claim 20, figures 3 and 5 show a hinge (25) and a spring (27), which is a flat spring (at the most top surface) as shown in figure 3.

Re claims 22 and 24, figures 3 and 5 show signal lines (31) and an air pressure source (4 and 5).

8. Claims 18-20, 22, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Graham (5,200,679) (see PTO-892).

Graham (5,200,679) discloses a multi-joint drive mechanism comprising a flat-plate shaped bone-member layer member in which a plurality of bone members (17 and 19) are arranged in arrays, the plurality of bone members being movably coupled at flat-plate shaped coupling portions (18), and cables (47 and 48 of Fig. 3) or webs (1, 2, 3) (col. 5, lines 23-32), which are elastic members, being arranged to stretch over the coupling portions, wherein the multi-joint drive mechanism capable of driving flexural motions (see Figs. 1-3, 5, and 6) with the coupling portions between the plurality of adjoining bone members serving as joints by expanding or contracting the elastically expanding or contracting members, and the multi-joint drive mechanism has a layer structure (34 or 35) (see Figs. 2 and 3) in which the bone members and elastic members are arranged in a planar fashion (Fig. 2).

Re claim 20, figures 1 and 2 teach a plurality of coupling portions (18, 18), each can be considered as a flat spring.

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Re claim 22, Graham (5,200,679) teaches signal lines for connecting sensor (20) and drive lines (one of 47 and 48), sensing pad 72, and a signal transmitting by the sensor to a controller and a switch 44 (Col. 7, lines 34-65).

Re claim 24, the device is driven by a motor (41), which has electric field applied.

Response to Arguments

Applicant's arguments filed Jan 28, 2008, have been fully considered. With respect to 35 USC § 112 of claim rejections, the amended claims has overcome the rejection. However, the arguments on the Japanese patent (JP 02-100791) and Graham (5,200,679) are not persuasive.

Priority

Applicant argues that "a reference to prior foreign application is not required to appear" (page 8). Note that "a reference to the prior application must be inserted as the first sentence(s) of the specification of this application or in an application data sheet (37 CFR 1.76)".

The Japanese patent (JP 02-100791)

Applicant argues that "the Japanese patent (JP 02-100791) does not disclose flat-plate shaped coupling portions, as required by independent claim 18. Rather, Fig. 1 clearly shows that coupling members are cylindrical, and are therefore not flat-plate shaped coupling portions" (last paragraph of page 9).

It is pointed out that the phrase "flat-plate shaped" is very broad lacking "detailed structural limitation". A cylindrical or circular shape rod could have two flat end surfaces wherein each end could have "flat plate shape".

The Japanese patent (JP 02-100791) teaches a plurality of bone members (11, 12, and 13) (see Fig. 5) being movably coupled at coupling portions (25) which has flat plate

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shape on its end, and elastic members (16, 16) which are arranged to stretch over the coupling portions.

Graham (5,200,679)

Applicant argues that "Graham (5,200,679) does not disclose elastic members which are arranged so as to stretch over the coupling portions" (page 10).

Note that the recited phrase "to stretch over the coupling portions" is a functional limitation. Graham (5,200,679) teaches coupling portions, which could be a pair of flat plates (26 and 27 of Fig. 3), or a pair of hinges (22 and 23), having flat ends, and webs (1, 2, 3), which are elastic members, as shown in figure 3. Note that figure 2 (see Exhibits A and B) teaches the elastic member substantially stretching over the plate (27).

Exhibit A

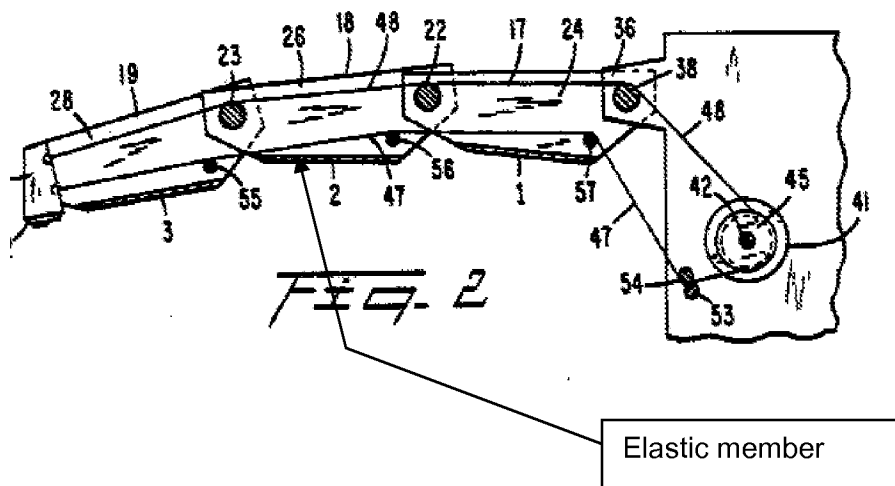
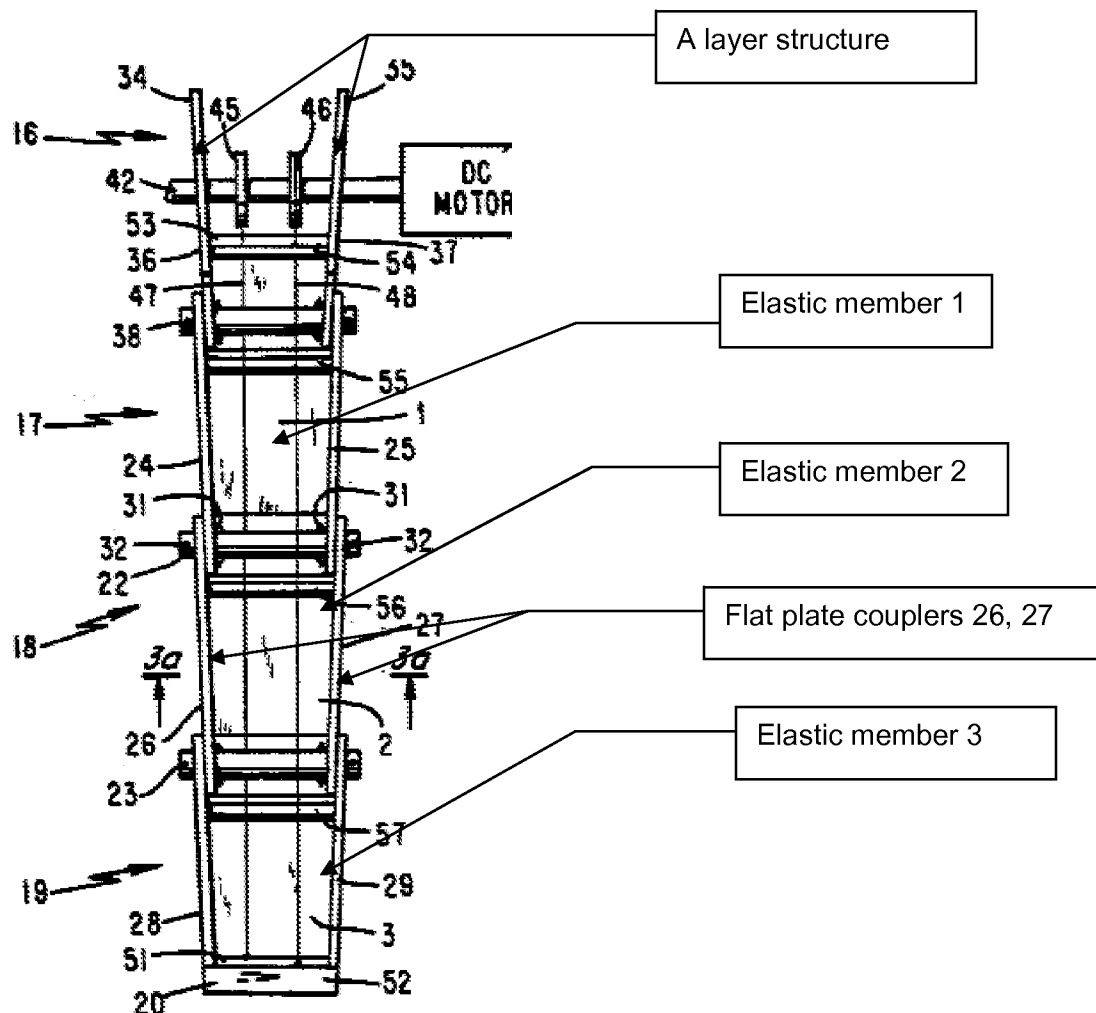


Exhibit B**Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Robertson (5,245,885) shows a device mechanism (see Fig. 5) comprising a flat plate members (25 and 40), flat plate coupling portions (35), and elastic member (30, 41), being made of rubber (col. 2, lines 22-31), a base having a layer capable of providing a

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planar fashion to the bone members and the elastic members, and an air pressure source (28, 33) to manipulate the elastic members.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL T. CHIN whose telephone number is (571) 272-6922. The examiner can normally be reached on MON-THURS (7:30 -6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on (571) 272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. T. C./
Examiner, Art Unit 3652

/Saúl J. Rodríguez/
Supervisory Patent Examiner, Art Unit 3652